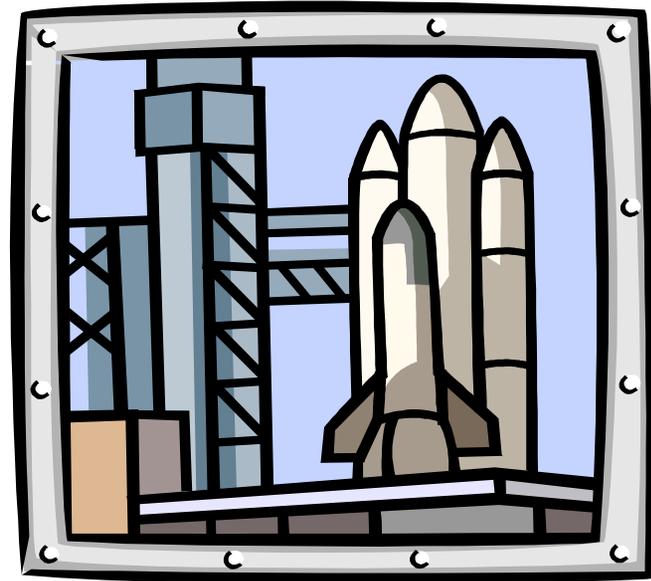


AEROSPACE



Maryland Department of Labor, Licensing and Regulation
Division of Workforce Development
Office of Workforce Information and Performance
1100 N. Eutaw Street, Room 316
Baltimore, MD 21201

October 2004

Aerospace Cluster

What is included in the Aerospace Cluster?

The Aerospace Cluster is comprised of industries that include establishments which contribute to production, research and development, operations, and government administration of the Nation's public and private aerospace system. These industries are classified under the sectors of manufacturing; transportation; professional, scientific and technical services; and public administration, as designated by the North American Industry Classification System (NAICS). Select industries within these divisions have been designated as component industries of the Aerospace Cluster.

Manufacturing establishments, which are engaged in the mechanical, physical, or chemical transformation of materials, substances, or components into new products. The Aerospace Cluster includes:

NAICS

- **334511** Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing
- **3364** Aerospace product and parts manufacturing

Transportation establishments, which provide transportation of passengers and cargo as well as support activities related to modes of transportation. The Aerospace Cluster includes:

NAICS

- **488111** Air traffic control

Professional, Technical and Support Services establishments, which perform specialized professional, scientific, and technical services requiring a high degree of expertise, or, provide operational or support activities. The Aerospace Cluster includes:

NAICS

- **541512** Computer systems design services
- **54171** R & D in physical, engineering and life sciences

Public Administration establishments, which consist of federal, state, and local government agencies that administer, oversee, and manage public programs, or have executive, legislative, or judicial authority. The Aerospace Cluster includes:

NAICS

- **9271** Space research and technology

For additional descriptive information on NAICS, go to www.census.gov/epcd/naics02/

This publication was developed using data from the Quarterly Census of Employment and Wages (ES 202) and from the Occupational Employment Statistics (OES) Programs.

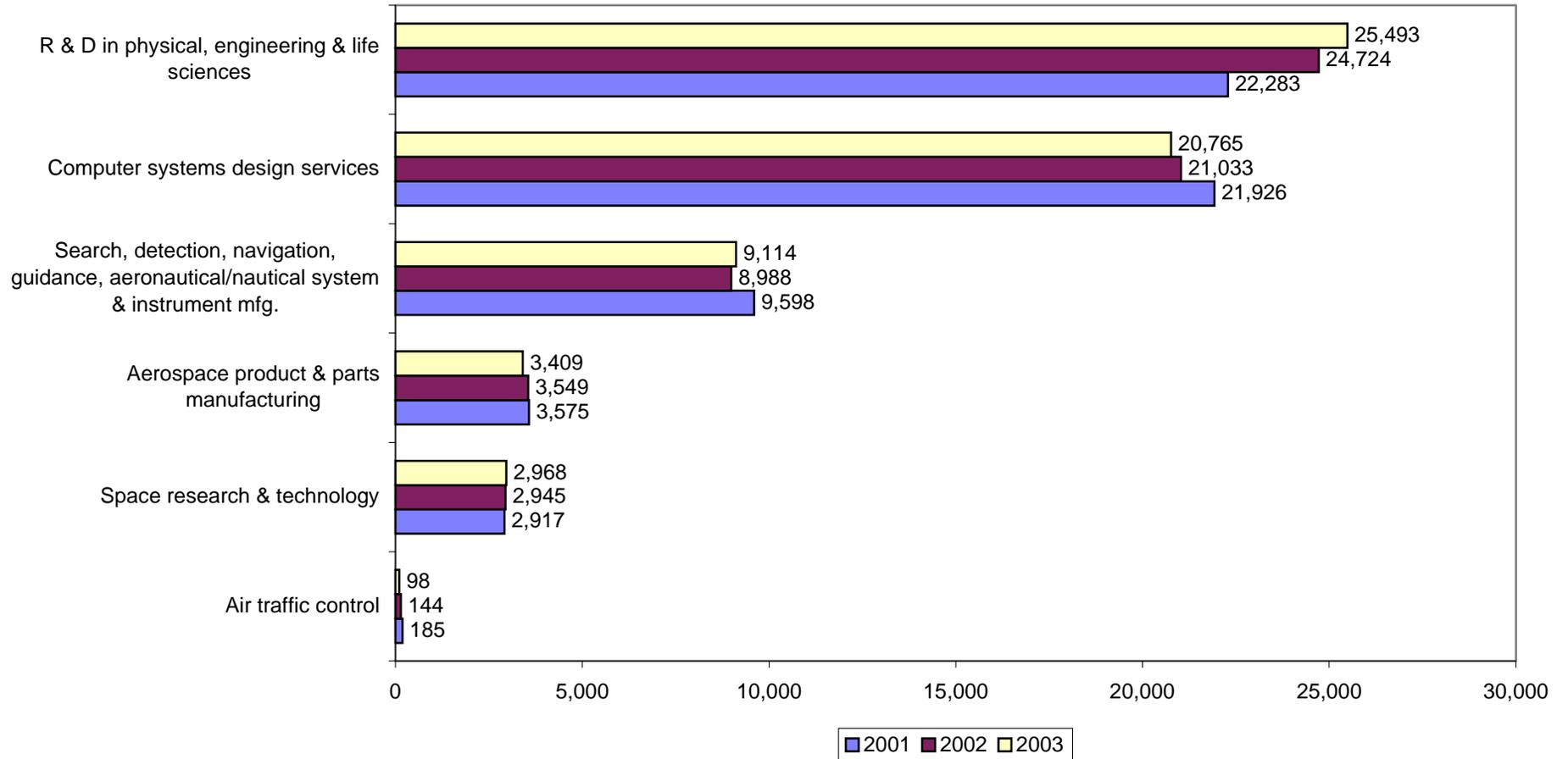
Maryland
Employment and Wages in the Aerospace Cluster Industries

NAICS	Industry Description	Employment			Payroll			Average Weekly Wage
		2001	2002	2003	2001	2002	2003	2003
	Aerospace	62,659	63,049	63,616	\$4,475,479,578	\$4,558,917,880	\$4,717,201,657	\$1,426
	Manufacturing							
334511	Search, detection, navigation, guidance, aeronautical/naval sys. & instrument mfg.	9,598	8,988	9,114	722,070,686	752,754,975	758,813,909	1,601
3364	Aerospace product & parts mfg.	3,575	3,549	3,409	203,574,266	217,434,629	215,012,754	1,213
	Transportation							
448811	Air traffic control	185	144	98	13,176,341	14,832,424	10,459,845	2,053
	Professional, Technical & Support Svcs.							
54151	Computer systems design services	21,926	21,033	20,765	1,589,417,415	1,553,620,193	1,551,051,334	1,436
54171	R & D in physical, engineering & life sciences	22,283	24,724	25,493	1,528,865,065	1,674,162,420	1,778,491,080	1,342
	Public Administration							
9271	Space research and technology	2,917	2,945	2,968	221,564,513	215,869,040	255,551,204	1,656
N/A	Nondistributable*	2,175	1,666	1,769	196,811,292	130,244,199	147,821,531	1,607

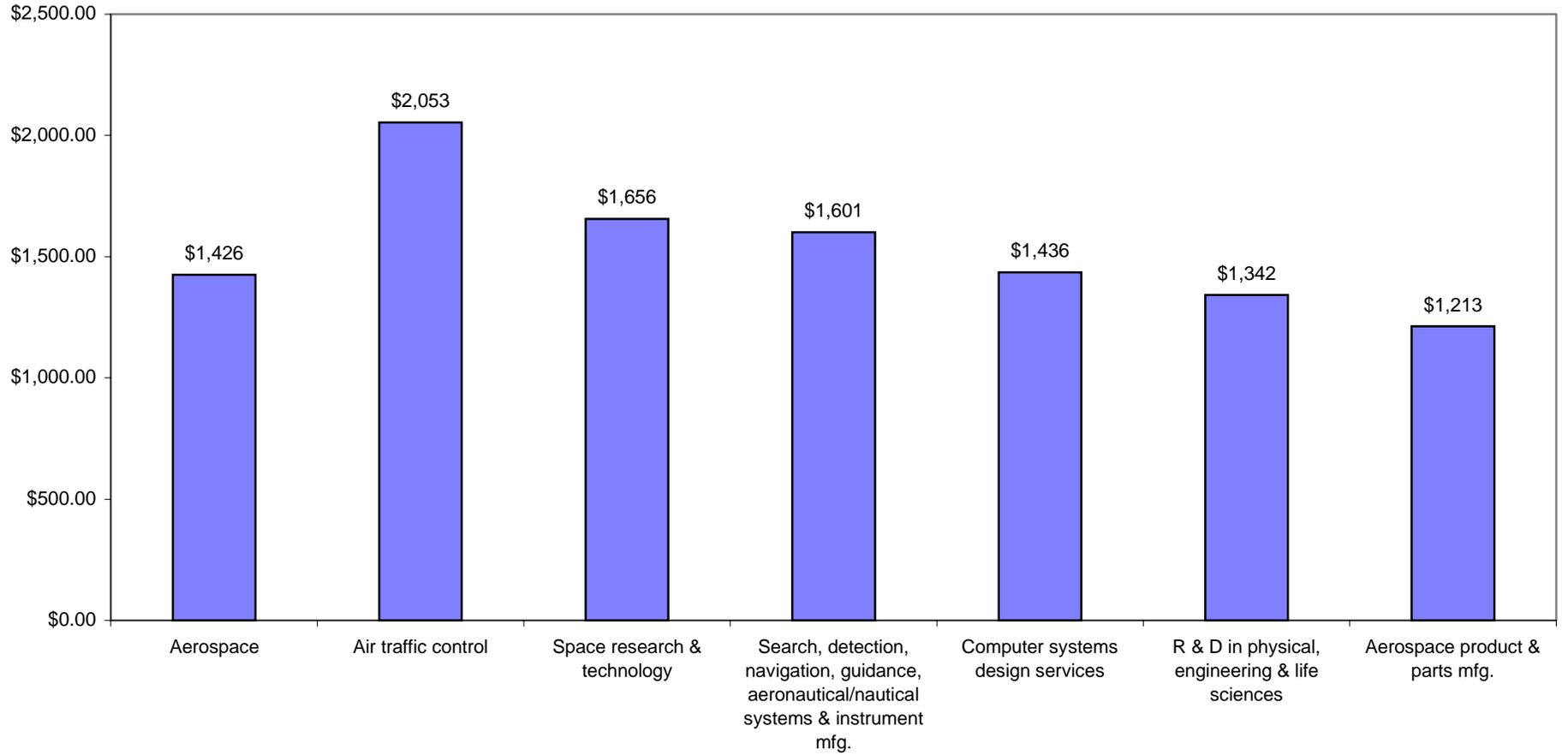
- The aerospace cluster comprises 2.6% of Maryland's payroll employment, but accounts for 4.8% of the state's total payroll.
- With average weekly pay of \$1,426, aerospace wages are about 82% above the average of \$782 per week for all industries.
- Between 2001 and 2003 the aerospace cluster netted a gain of 957 jobs, though four of the six industries reported employment losses.

* Includes establishments in all aerospace cluster NAICS industries that cannot be distributed geographically.

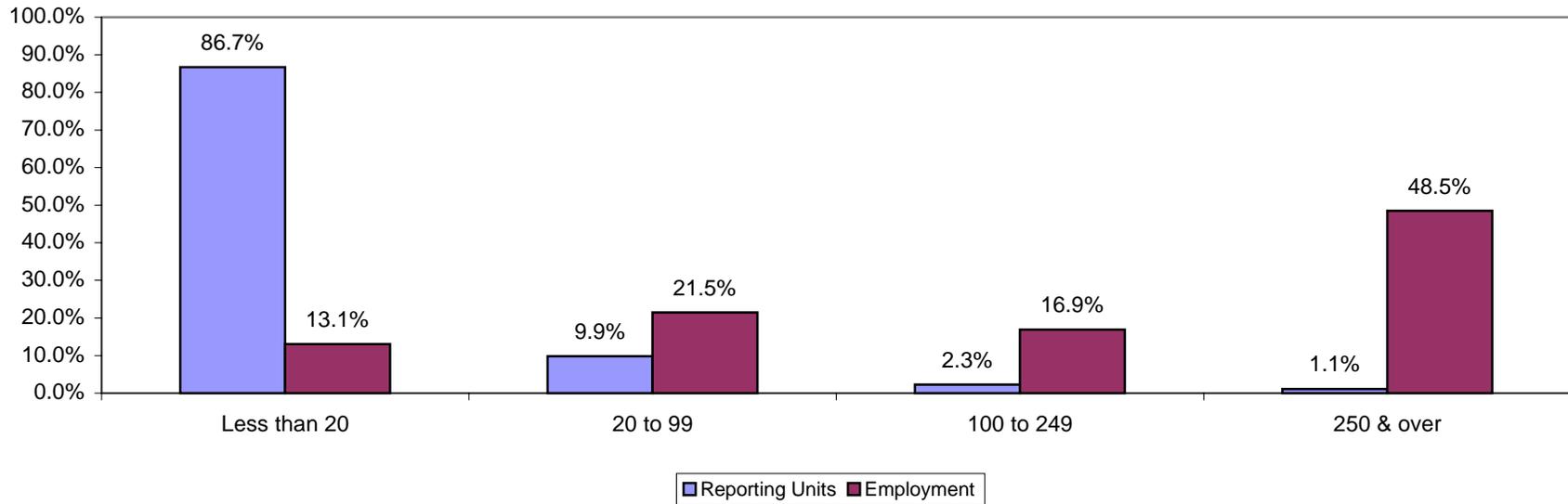
Maryland
Employment in the Aerospace Cluster Industries - 2001-2003



**Maryland
Average Weekly Wage in Aerospace Cluster Industries - 2003**



Maryland
Reporting Units and Employment Concentration in the Aerospace Cluster by Size Class*
Based on 4th Quarter 2003 Average Employment



	Reporting Units				Employment			
	Less than 20	20 to 99	100 to 249	250 & over	Less than 20	20 to 99	100 to 249	250 & over
Aerospace Cluster	2,771	315	72	36	8,402	13,802	10,874	31,122
Percent of Total	86.7%	9.9%	2.3%	1.1%	13.1%	21.5%	16.9%	48.5%

- Small employers, those employing fewer than 20 workers, dominate the aerospace industries, accounting for almost 90% of all establishments in the cluster.
- Establishments with 250 plus workers, while accounting for just 1.1% of all business locations, are the largest jobs provider. Nearly 50% of all aerospace-related employment is concentrated in this size class.

* Includes establishments in all aerospace cluster NAICS industries that cannot be distributed geographically.

Maryland
Occupations Typically Associated with the Aerospace Cluster

Occupation	Annual Openings			Training Code	Median Hourly Wage
	Growth *	Replacements *	Total *		
Aerospace Engineers	15	40	55	5	\$39.75
Electrical and Electronic Engineering Technicians	90	90	180	6	22.00
Team Assemblers	50	275	325	10	11.00
Machinists	20	80	100	9	16.50
Inspectors, Testers, Sorters, Samplers and Weighers	50	120	170	10	14.00
Aircraft Mechanics and Service Technicians	30	30	60	7	22.00
Management Analysts	415	255	670	4	31.75
Industrial Engineers	35	50	85	5	30.50
Supervisors, Production and Operating Workers	95	170	265	8	22.50
Mechanical Engineers	50	125	175	5	33.75
Electrical Engineers	45	70	115	5	34.25
Electronic Engineers	70	90	160	5	37.75
Laborers and Freight, Stock and Material Movers, Hand	175	1,280	1,455	11	10.00
Engineering Managers	90	95	185	4	47.00
Electrical and Electronic Assemblers	0	70	70	11	11.50
Computer Software Engineers, Applications	495	110	605	5	38.25
Computer Programmers	180	305	485	5	30.75
Computer Systems Analysts	485	230	715	5	34.00
Computer Support Specialists	315	135	450	6	21.50
Office Clerks, General	695	1,165	1,860	11	12.25
Financial Managers	295	210	505	4	33.75
Customer Service Representatives	735	485	1,220	10	13.50
Network Systems and Data Communications Analysts	335	70	405	5	30.50
Secretaries, exc. Legal, Medical and Executive	230	835	1,065	10	13.25
Electro Mechanical Technicians	10	10	20	6	16.75

* Represents economy-wide demand 2002 - 2012

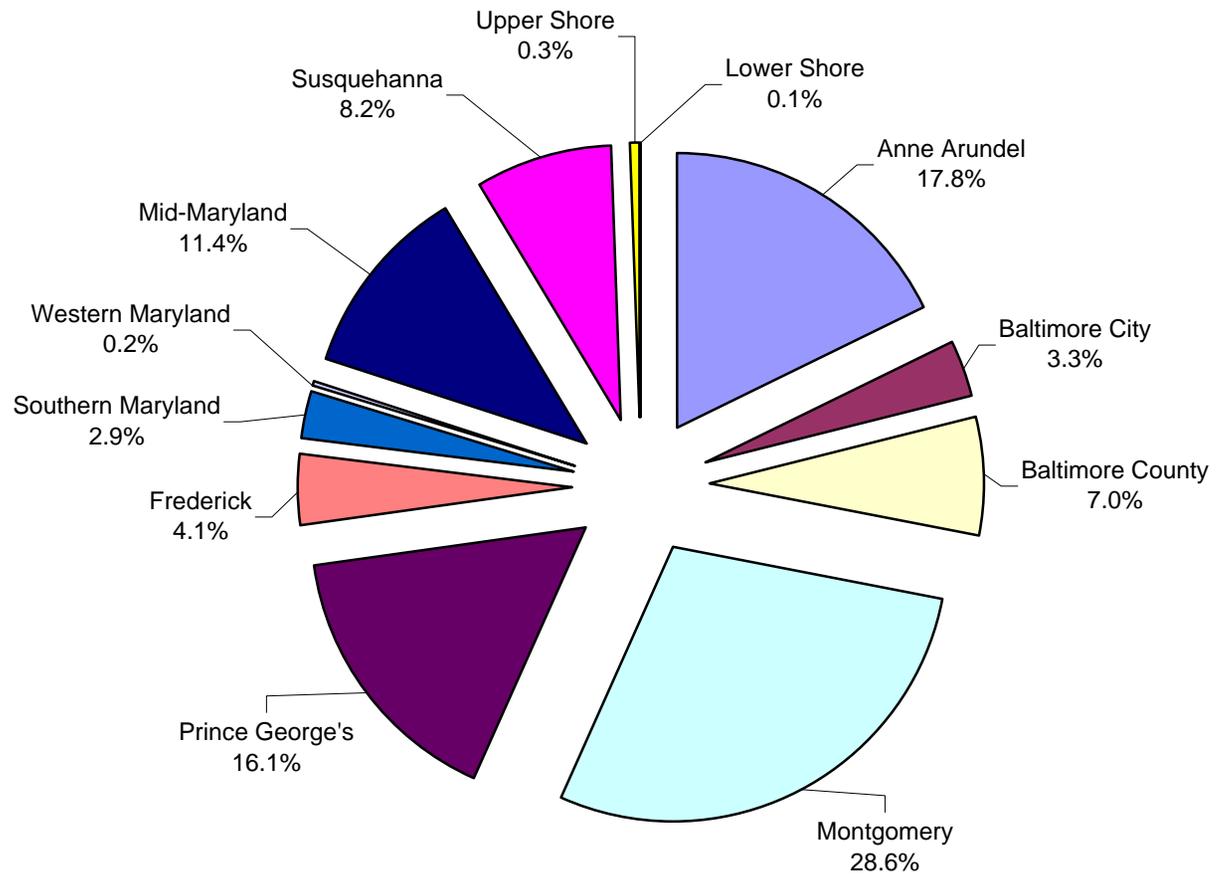
Estimates for Annual Openings rounded to the nearest 5

Education and Training Categories

Occupations are classified into 1 of 11 categories by the Bureau of Labor Statistics based on analyses of the occupation's usual education and training requirements conducted while developing information to present in the *Occupational Outlook Handbook*. The 11 classifications are as follows:

- 1 **First professional degree.** Completion of the academic program usually requires at least 6 years of full-time equivalent academic study, including college study prior to entering the professional degree program.
- 2 **Doctoral degree.** Completion of the degree program usually requires at least 3 years of full-time equivalent academic work beyond the bachelor's degree.
- 3 **Master's degree.** Completion of the degree program usually requires 1 or 2 years of full-time equivalent study beyond the bachelor's degree.
- 4 **Work experience, plus a bachelor's or higher degree.** Most occupations in this category are managerial occupations that require experience in a related nonmanagerial position.
- 5 **Bachelor's degree.** Completion of the degree program generally requires at least 4 years but not more than 5 years of full-time equivalent academic work.
- 6 **Associate degree.** Completion of the degree program usually requires at least 2 years of full-time equivalent academic study.
- 7 **Postsecondary vocational training.** Some programs last only a few weeks while others may last more than a year. In some occupations, a license is needed that requires passing an examination after completion of the training.
- 8 **Work experience in a related occupation.** Some occupations requiring work experience are supervisory or managerial occupations.
- 9 **Long-term on-the-job training.** This category includes occupations that generally require more than 12 months of on-the-job training or combined work experience and formal classroom instruction for workers to develop the skills needed for average job performance. This category includes formal and informal apprenticeships that may last up to 4 years and short-term intensive employer-sponsored training that workers must successfully complete. Individuals undergoing training are generally considered to be employed in the occupation. This category includes occupations in which workers may gain experience in non-work activities, such as professional athletes who gain experience through participation in athletic programs in academic institutions.
- 10 **Moderate-term on-the-job training.** This category includes occupations in which workers can develop the skills needed for average job performance after 1 to 12 months of combined on-the-job experience and informal training.
- 11 **Short-term on-the-job training.** This category covers occupations in which workers can develop the skills needed for average job performance after a short demonstration or up to one month of on-the-job experience or instruction.

Aerospace Cluster - 2003



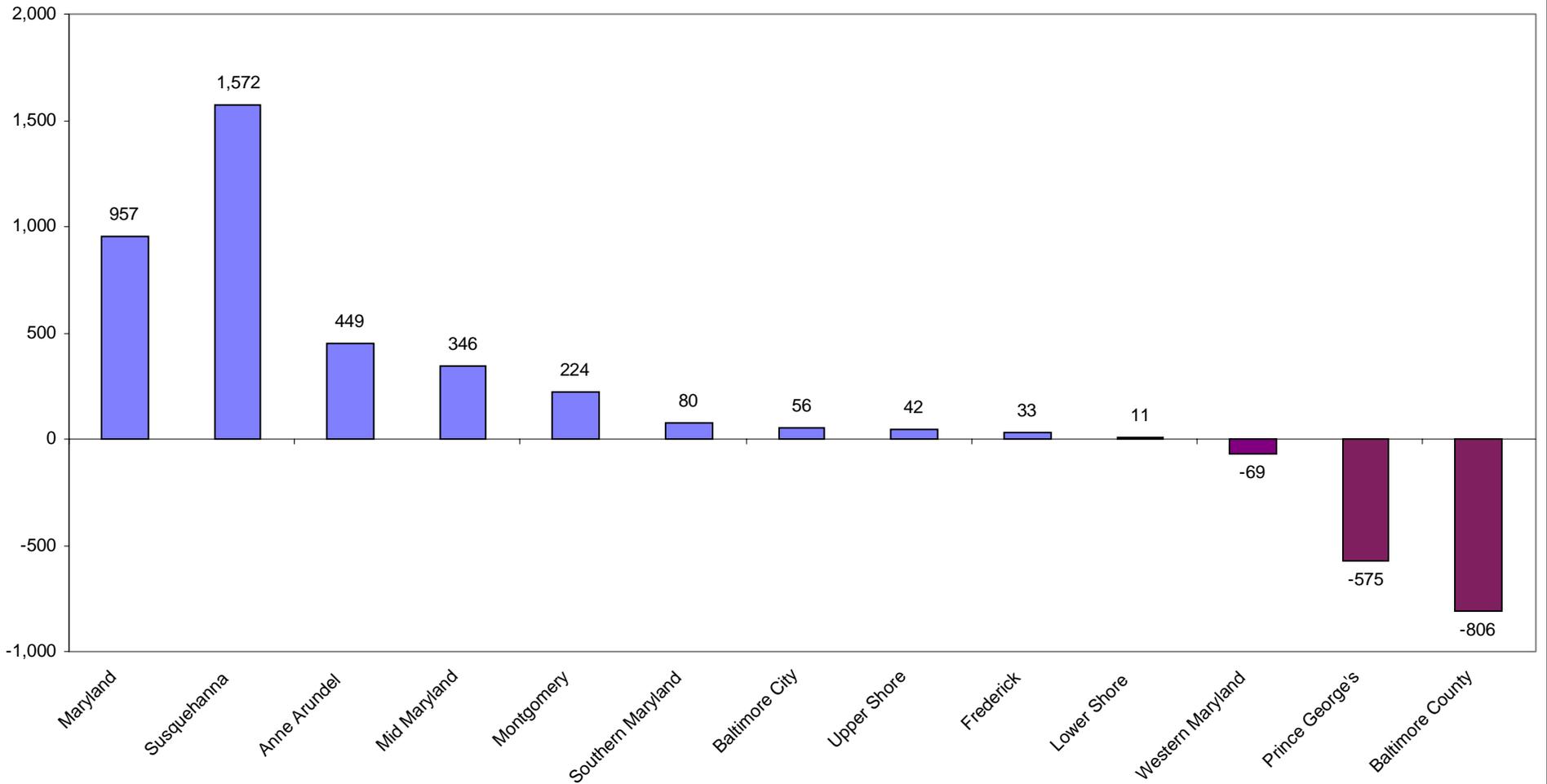
**Employment and Wages in the Aerospace Cluster
By WIA and Select Local Jurisdictions**

WIA	Employment			Employment Change 2001 - 2003	Number of Reporting Units 2003	Total Wages 2003	Average Weekly Wage 2003
	2001	2002	2003				
Anne Arundel	10,590	10,803	11,039	449	245	\$924,682,535	\$1,611
Baltimore City	2,001	1,939	2,057	56	118	130,321,562	1,218
Baltimore County	5,124	4,764	4,318	-806	234	308,667,996	1,375
Frederick	2,521	2,480	2,554	33	98	137,860,168	1,038
Montgomery	17,451	17,777	17,675	224	987	1,310,129,077	1,425
Prince George's	10,504	9,940	9,929	-575	292	755,453,676	1,463
Lower Shore	71	65	82	11	21	3,115,000	731
Somerset	D	D	D	D	D	D	D
Wicomico	D	D	D	D	D	D	D
Worcester	D	D	D	D	D	D	D
Mid Maryland	6,686	7,074	7,032	346	333	552,811,158	1,512
Carroll	374	375	394	20	59	29,933,383	1,461
Howard	6,312	6,699	6,638	326	274	522,877,775	1,515
Southern Maryland	1,706	1,780	1,786	80	98	107,161,097	1,154
Calvert	77	91	70	-7	19	4,913,809	1,350
Charles	170	173	186	16	32	11,092,385	1,147
St Mary's	1,459	1,516	1,530	71	47	91,154,903	1,146
Susquehanna	3,526	4,480	5,098	1,572	73	328,402,297	1,239
Cecil	539	509	655	116	12	48,900,282	1,436
Harford	2,987	3,971	4,443	1,456	61	279,502,015	1,210
Upper Shore	141	160	183	42	29	7,576,682	796
Caroline	D	D	D	D	D	D	D
Dorchester	D	D	D	D	D	D	D
Kent	D	D	D	D	D	D	D
Queen Anne's	18	17	35	17	16	858,556	472
Talbot	115	133	137	22	8	6,222,207	873
Western Maryland	163	121	94	-69	17	3,198,878	654
Allegany	D	D	D	D	D	D	D
Garrett	D	D	D	D	D	D	D
Washington	107	61	43	-64	11	1,596,944	714
Nondistributable*	2,175	1,666	1,769	-406	606	147,821,531	1,607
Maryland	62,659	63,049	63,616	957	3,151	4,717,201,657	1,426

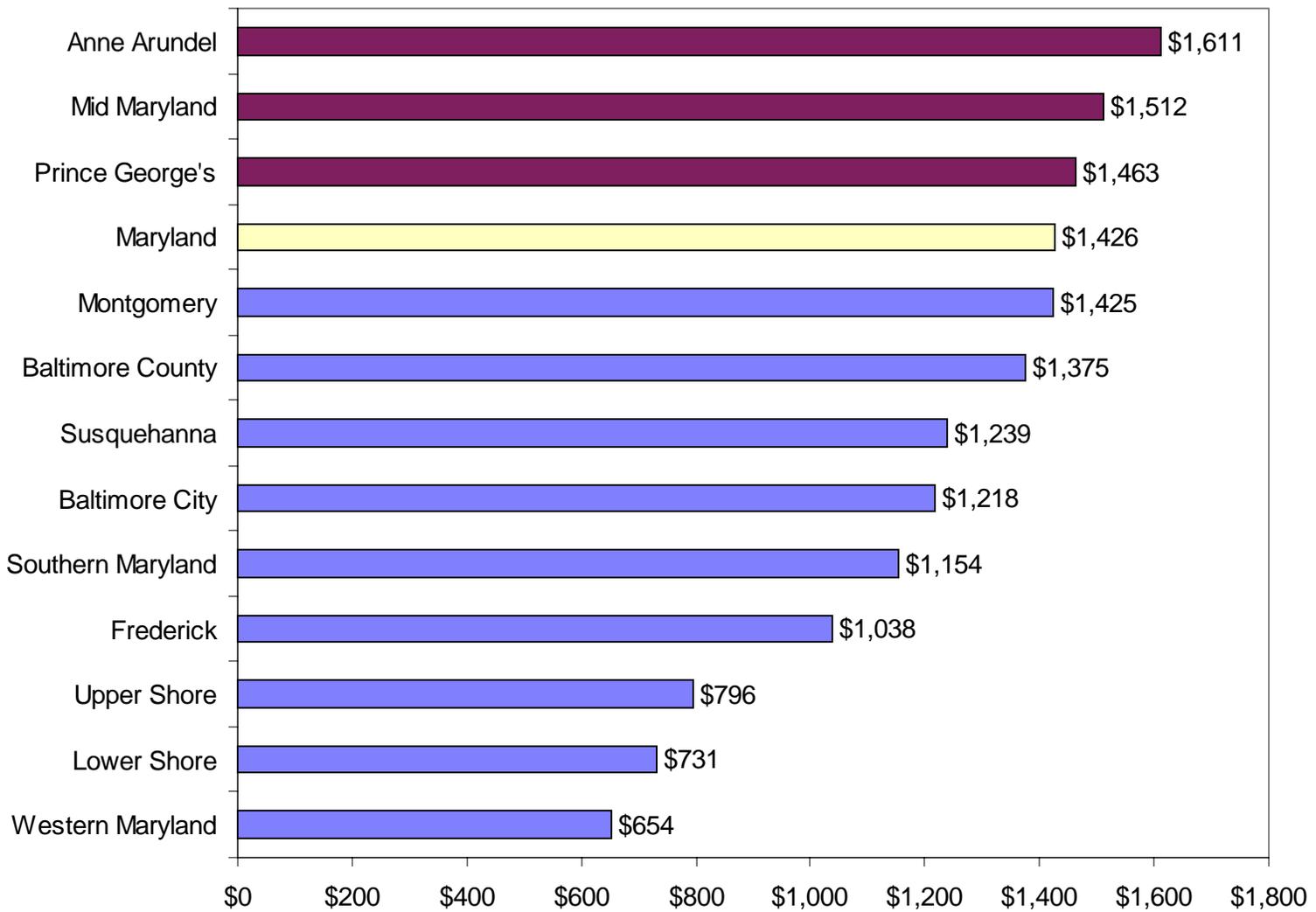
D - Data do not meet disclosure standards

* Includes establishments in all aerospace cluster NAICS industries that cannot be distributed geographically

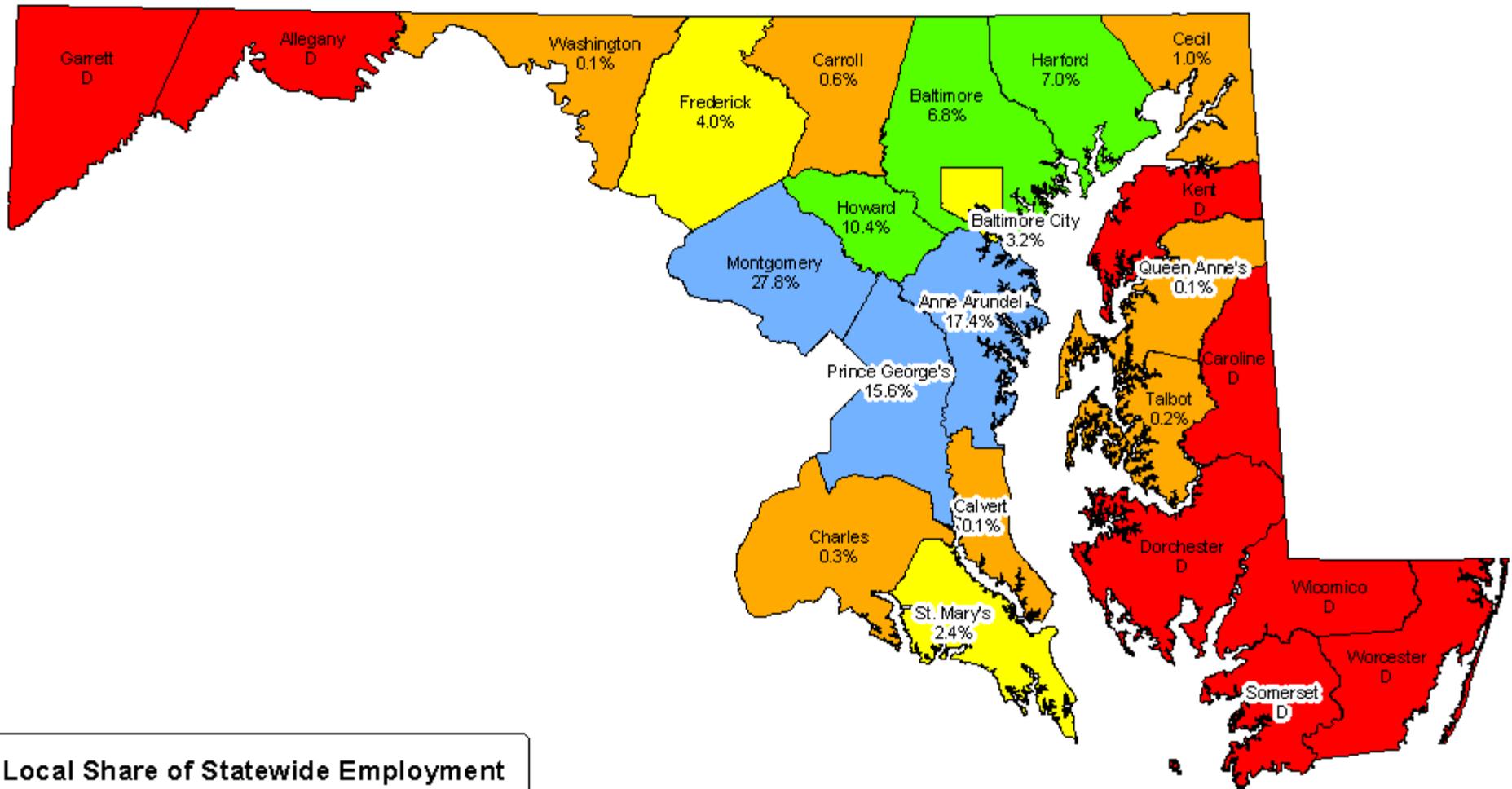
**Employment Changes in the Aerospace Cluster by WIA
2001 - 2003**



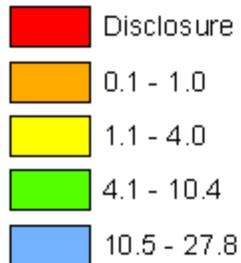
Average Weekly Wage in the Aerospace Cluster by WIA - 2003



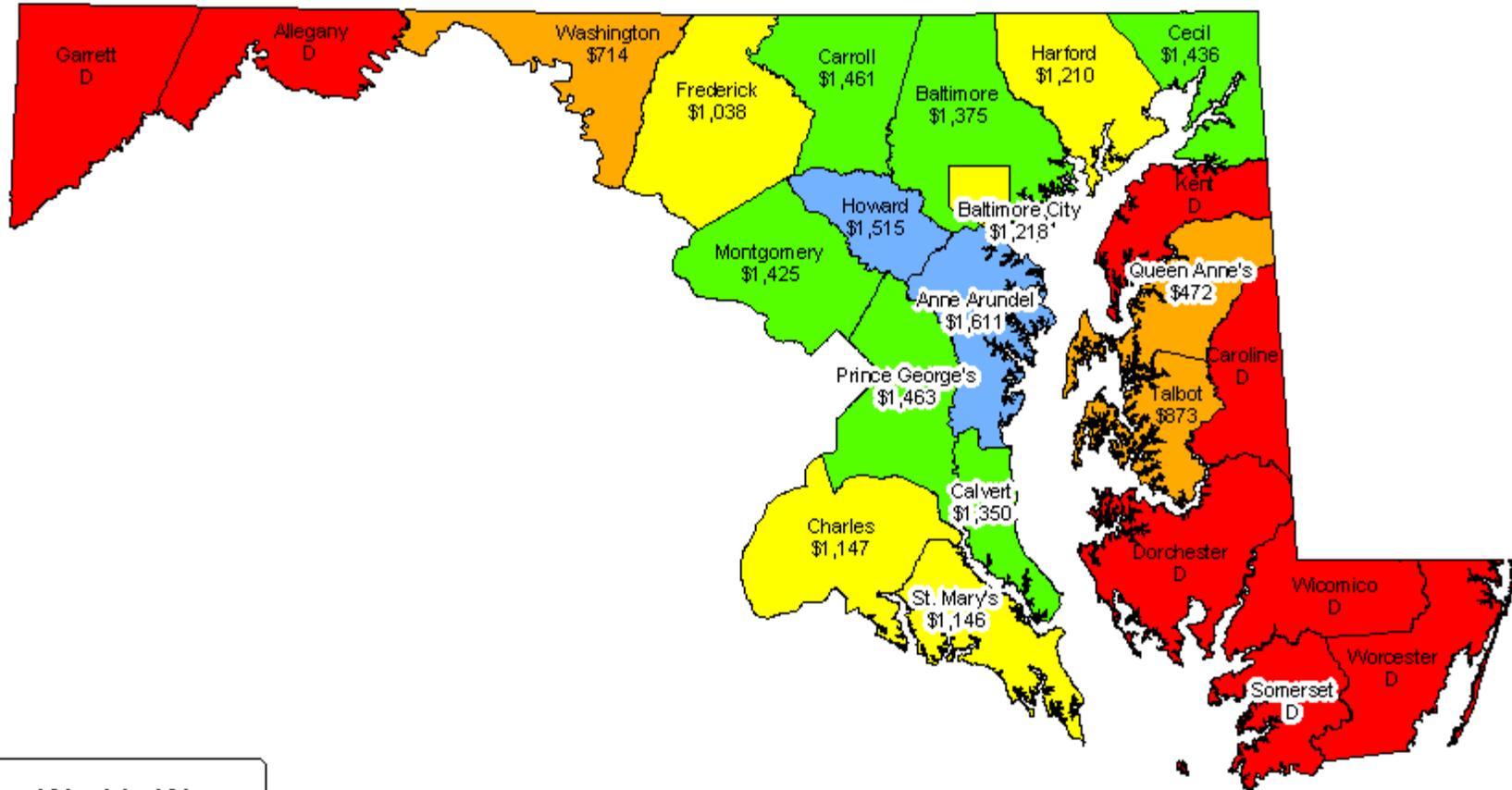
Local Share of Statewide Employment in the Aerospace Cluster 2003



Local Share of Statewide Employment



Average Weekly Wage in the Aerospace Cluster by Local Jurisdictions 2003



Average Weekly Wage

- Disclosure
- 0 - 873
- 874 - 1218
- 1219 - 1463
- 1464 - 1611